Appendix H: Monitoring Program

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Overview

Monitoring provides the feedback for the forest planning cycle by testing assumptions, tracking relevant conditions over time, measuring management effectiveness, and evaluating effects of management practices. Monitoring information should enable the Forest to determine if a change in plan components or other plan management guidance may be needed, forming a basis for continual improvement and adaptive management. Direction for the monitoring and evaluation of forest plans is found under the 2012 planning rule at 36 CFR 219.12 and in the directives at 1909.12 Chapter 30.

The plan monitoring program must contain one or more monitoring questions and associated indicators addressing each of the following:

- The status of select watershed conditions.
- The status of select ecological conditions including key characteristics of terrestrial and aquatic ecosystems.
- The status of focal species to assess the ecological conditions required under § 219.9.
- The status of a select set of the ecological conditions required under § 219.9 to contribute to the recovery of federally listed threatened and endangered species, conserve proposed and candidate species, and maintain a viable population of each species of conservation concern.
- The status of visitor use, visitor satisfaction, and progress toward meeting recreation objectives.
- Measurable changes on the plan area related to climate change and other stressors that may be affecting the plan area.
- Progress toward meeting the desired conditions and objectives in the plan, including for providing multiple use opportunities.
- The effects of each management system to determine that they do not substantially and permanently impair the productivity of the land.

The plan monitoring program addresses the most critical components for informed management of the Forest's resources within the financial and technical capability of the agency. Every monitoring question links to one or more desired conditions, objectives, standards, or guidelines. However, not every plan component has a corresponding monitoring question.

This monitoring program is not intended to depict all monitoring, inventorying, and data gathering activities undertaken on the Forest; nor is it intended to limit monitoring to just the questions and indicators listed in tables H-1 through H-4. Consideration and coordination with broad-scale monitoring strategies, multi-party monitoring collaboration, and cooperation with state agencies where practicable will increase efficiencies and help track changing conditions beyond the Forest boundaries to improve the effectiveness of the plan monitoring program. In addition, project and activity monitoring may be used to gather information for the plan monitoring program if it will provide relevant information to inform adaptive management.

The monitoring program sets out the plan monitoring questions and associated indicators. It is comprised of a monitoring guide (*to be developed*) and a biennial monitoring evaluation report. The monitoring guide will provide detailed information on the monitoring questions, indicators, frequency and reliability, priority, data sources and storage, and cost.

An interdisciplinary team will develop a biennial monitoring evaluation report which will summarize the results of completed monitoring, evaluate the data, consider relevant information from broad-scale or

other monitoring efforts, and make recommendations to the responsible official. The monitoring evaluation report will indicate whether or not a change to the Forest Plan, management activities, or the monitoring program, or a new assessment, may be warranted based on the new information. The monitoring evaluation report is used to inform adaptive management of the Plan area. The monitoring evaluation report will be made available to the public.

Some kinds of monitoring indicators will require longer time frames for thorough evaluation of results, but a biennial review of what information has been collected will ensure timely evaluation to inform planning. The biennial monitoring evaluation does not need to evaluate all questions or indicators on a biennial basis but must focus on new data and results that provide new information regarding management effectiveness, progress towards meeting desired conditions or objectives, changing conditions, or validation (or invalidation) of assumptions.

Tables H-1 through H-4 are organized to display the plan components that drive the monitoring question(s) and the indicator(s) for answering the monitoring question. Monitoring questions are used to evaluate whether management is maintaining or moving toward or away from desired conditions. Indicators are the specific resource measures used in answering the monitoring questions. In general, the forest plan components listed is the primary direction being addressed by the monitoring question.

The monitoring indicators listed in this appendix will be evaluated. The associated evaluation process then determines if the observed changes are consistent with the Forest Plan as well as the effectiveness of implementation. Evaluation reports will be produced biennially (as per 2012 Rule, 36 CFR 219.12(d)). Not all questions or indicators will be reported in the biennial Monitoring Evaluation Report because some will be reported over longer time scales.

Physical and Biological Ecosystems

The forest plan components for wildlife may not be the primary direction that is addressed by the monitoring question, because wildlife habitats are integrated with aquatic ecosystems, terrestrial vegetation, processes such as fire, and human developments such as roads or recreation sites. As a result, other monitoring questions and indicators may provide information that is relevant to wildlife monitoring. For example, vegetation composition and structure are key components of wildlife habitat and are, therefore, important components of wildlife habitat monitoring.

At a national forest scale, potential vegetation is a useful organizing concept to delineate habitat influenced by elevation, microclimates, or productivity, which may be related to wildlife occurrence. The Flathead National Forest (NF) has identified desired conditions for four potential vegetation groups (called biophysical settings); warm dry, warm moist, cool moist to moderately dry, and cold. The key ecosystem characteristics listed in this appendix are intended to be used for forest plan monitoring at a forest-wide or biophysical setting scale. Although many existing vegetation characteristics are associated with wildlife habitats, the following key ecosystem characteristics have been identified based on national technical guides:

- Vegetation composition – coniferous forest dominance type acres, deciduous forest type acres, key tree species presence by size class, burned forest acres and distribution by severity class
- Vegetation structure – average opening patch size by biophysical setting, range of opening patch sizes by biophysical setting, acres meeting Green et al. definitions of old growth, acres with large live tree presence. (Also see snags and defective trees, down wood)
- Vegetation successional or seral stages – tree size classes within RHCAs and other lands
- Snags and defective live trees – acres by snag size class

- Down wood – coarse woody debris tons/acre
- Herbaceous vegetation and shrubs – acres of transitional forest resulting from fire and timber harvest as well as more persistent herbaceous/shrub communities

Specific vegetation indicators that would be monitored for key ecosystem characteristics on the Flathead NF are identified and described in the vegetation or fire sections of table h-1. Monitoring of other ecosystem characteristics may be applied at the mid-scale or project level. For example, spatial mapping of forest size classes or canopy cover classes may be done, using VMAP or other vegetation data bases, to assess distribution of habitat conditions for specific wildlife species. Key ecosystem characteristics can also be combined in different ways to assess habitat for specific species of interest, using habitat models that are based upon the best available scientific information. Species-specific habitat models would be used at the project scale to assess potential effects of forest plan implementation. For example, project-level monitoring can assess availability of multistoried hare habitat within a lynx analysis unit or assess spatial distribution of old growth patch size and connectivity within a sub-watershed.

In addition to vegetation attributes, other characteristics of the human environment are important to wildlife and would be included in monitoring efforts. Key characteristics include human settlements, agricultural lands, roads, developed recreation sites, and invasive species. Trends in human settlements and agricultural lands within the perimeter of the Flathead NF may be monitored using LANDFIRE data sets, obtained from the Montana National Heritage Program (MTNHP) as they are updated. Roads and developed recreation sites would be monitored on National Forest System (NFS) lands as listed in the Recreation and Infrastructure sections of table h-2.

Key ecosystem characteristic related to climate change and wildlife are measured at very large scales, not the forest scale, but are important to some wildlife species on the Flathead NF. For example, one key ecosystem characteristic is “persistent spring snow” which is useful for monitoring habitat for species such as the wolverine. Changes in the distribution of persistent spring snow on the Flathead NF would be monitored if and when the existing data is updated. Another key ecosystem characteristic is related to drought, measured by drought severity indices and trends, which would be monitored over time as the data is updated. Links between particular wildlife species and phenology may also be important--for example, coat mis-match between snowshoe hares and their environment—and is currently being researched.

The presence and distribution of threatened and endangered species, species of conservation concern, and species of public interest are not included as indicators in the Flathead NF proposed plan monitoring program, but would be assessed in cooperation with MTFWP, non-government organizations (NGOs), MTNHP, and other federal agencies (e.g., Integrated Bird Monitoring in Bird Conservation Regions, NCDE grizzly bear monitoring). The bull trout is a Threatened species and is a proposed focal species because it is an indicator of ecological integrity of an aquatic ecosystem integral to the Flathead NF. Due to its status as a proposed focal species, redd counts would be included as an indicator to be monitored in cooperation with Montana Fish, Wildlife and Parks (MTFWP), and other agencies.

Table H-1. Physical and biological ecosystem plan monitoring questions and indicators

Selected Plan Component(s)	Monitoring Question(s)	Potential Indicator(s)
Terrestrial Ecosystems and Vegetation (TE&V)		
FW-DC-TE&V-02: Across the landscape, diverse vegetation conditions occur, in a complex pattern of species, tree sizes, tree ages, forest densities, patch sizes, canopy layers, and other forest structural characteristics such as downed wood and snags. Desired conditions for these components (as provided throughout this forest plan) create landscape patterns and forest conditions that are resilient, having the capacity to maintain or regain normal functioning and development following future disturbances (such as fire) or in the face of future climate changes. Forest patterns result in greater variation in post-disturbance forest conditions (such as in burn severity and numbers of live trees remaining after fire or insect epidemics), and more rapid and effective recovery and re-establishment of trees and other vegetation after disturbances. The vegetation mosaic across the plan area is dynamic, varying greatly over time as vegetation is influenced by site conditions and responds to climate changes and ecological processes such as natural succession, fire, insects and disease, floods and droughts. (Also as pertains to FW-DC-TE&V-01-23, FW-OBJ-TE&V-01-04, FW-STD-TE&V-01-06, FW-GDL-TE&V-01-14.)	**MON-TE&V-01:** To what extent are management activities and natural disturbance processes meeting or trending toward desired conditions for vegetation composition, structure, and pattern, increasing resistance and resiliency to disturbance factors including climate change? This includes vegetation dominance types, species presence, forest size class, old growth, presence of large live overstory trees, down wood, snags, recently burned forest, and insect and disease infested forest.	**IND TE&V-01:** **a.** Acres in each biophysical setting affected by vegetation management activities (e.g timber harvest, prescribed fire, pre-commercial thin, fuels treatment, post-fire salvage, planting) that meet FW-OBJ-VEG-01. Data source: Forest Service Activity Tracking System (FACTS) data base. **b.** Acres in each biophysical setting affected by natural disturbance processes (i.e. wildfire, detectable insect and disease infestations). Data source: Fire and FACTS data bases, aerial insect/disease surveys. **c.** Acres of mtn. pine beetle and root disease hazard and levels of hazard. Data source: FIA. **d.** Acres by vegetation dominance type and species presence. Data source: Forest Inventory and Analysis (FIA) program. **e.** Acres by forest size class. Data source: FIA. **f.** Acres of old growth (as defined in glossary). Data source: FIA. **g.** Acres with presence of large, live trees. Data source: FIA. **h.** Snags per acre and average total tons per acre of downed woody material per acre. Data source: FIA.
FW-GDL-POLL-01: An integrated pest management approach should be used when evaluating proposed methods to control pests (such as insects or invasive weeds), considering potential effects to native pollinators and mitigation measures if necessary. (Also as pertains to FW-DC-ECOS GR-01, MA-1a-DC-04,MA-3 Special Areas-DC-01, FW-DC-TE&V-06, FW-OBJ-TE&V-03).	**MON-TE&V-02:** Have management activities met Plan objectives and trended towards desired conditions for invasive terrestrial plant species?	**IND-TE&V-02:** **a.** Acres of non-native invasive plants treated. **b.** Number of sites of new non-native invasive plant species and number of acres treated
FW-DC-PLANT-01: Habitat conditions support the recovery of plant species listed as threatened, endangered, proposed or candidate species under	**MON-TE&V-03:** **a.** To what extent is forest management contributing to the conservation of water	**IND-TE&V-03:** **a.** Occurrences of water howellia and condition of habitats. Data source: periodic monitoring

Selected Plan Component(s)	Monitoring Question(s)	Potential Indicator(s)
the ESA. Ecological conditions and processes that sustain the habitats currently or potentially occupied by these species are retained or restored. **FW-OBJ-PLANT-01:** Treat 8,100 to 19,200 acres for the purpose of sustaining or restoring whitebark pine in the ecosystem and contribute to achieving desired conditions for presence of this species across the landscape.	howellia and moving toward habitat objectives? **b.** To what extent is forest management contributing to the desired conditions and objectives for maintaining and restoring whitebark pine?	surveys. **b.** Acres treated for the purpose of sustaining or restoring whitebark pine.
FW-DC-SCC PLANT-01: Vegetation conditions and ecological processes that currently or potentially support plant species of conservation concern are maintained or restored. **FW-OBJ-SCC PLANT-01:** Treat 16,000 to 21,000 acres of forest to maintain or restore rust-resistant western white pine across the landscape and contribute to desired conditions for species presence across the landscape.	**MON-TE&V-04:** To what extent is forest management contributing to the desired conditions to maintain/restore western white pine?	**IND-TE&V-04:** Acres treated for the purpose of sustaining or restoring western white pine.
Fire		
FW-DC-FIRE-02: In areas where wildfires on NFS lands currently pose a threat to communities and community assets (e.g., power lines, communication towers, developed recreation sites), wildland fuel is reduced so the expected fire behavior is reduced. **FW-OBJ-FIRE-01:** Move toward or maintain the desired conditions for fuel management by treatment (such as mechanical or prescribed fire) of forest vegetation on approximately 50,000 to 75,000 acres, utilizing all available management opportunities. Some of these acres will be WUI exemptions to standards FW-STD-TE&V 03-06.	**MON-FIRE-01:** To what extent are management activities moving hazardous fuels towards desired conditions?	**IND-FIRE-01:** Acres of hazardous fuel treatments within the WUI, and in areas outside of the WUI (source FACTS database).
FW-DC-FIRE-03: The full range of fire management activities, including wildland fires (prescribed fire and wildfire), are recognized and used by forest administrators as an integral part of achieving ecosystem sustainability, including interrelated ecological, economic and social components such as improved ecosystem resilience and wildlife habitat, protection of property and other values at risk, public safety, and creation opportunities. (Also pertains to FW-DC-TE&V 03, 11, 12, 14, 15, 16.)	**MON-FIRE-02:** To what extent is unplanned fire used to trend vegetation towards desired conditions?	**IND-FIRE-02**: **a.** Number of unplanned natural fire ignitions managed for the maintenance and/or restoration of fire-adapted ecosystems, and the number of unplanned natural ignition managed with the primary goal of suppression (source is Firestat). **b.** Forestwide acres burned by wildfire by severity class (low, medium, high) as determined by all available post-fire information including BARC surveys. **c.** Forestwide acres burned by prescribed fire to meet restoration objectives (e.g. whitebark

Selected Plan Component(s)	Monitoring Question(s)	Potential Indicator(s)
		pine, grass/forb/shrub, etc)
Aquatic Ecosystems and Species		
FW-DC-WTR-01: Watersheds and associated aquatic ecosystems retain their inherent resilience to respond and adjust to disturbances without long-term, adverse changes to their physical or biological integrity. Watersheds are in fully functioning conditions as defined by the Watershed Condition Framework. **FW-DC-WTR-04:** Stream channels transport sediment and woody material over time while maintaining reference dimensions (e.g., bankfull width, depth, entrenchment ratio, slope and sinuosity). Watershed conditions support a natural frequency and magnitude of base flows and flood flows. (Also pertains to FW-GDL-RHCA-01 02, 03, 11; FW-DC-WTR-02 11; FW-GDL-WTR-03; FW-DC-AQH-01,02; FW-DC-AQS-01-05.)	**MON-WTR-01:** Are water quality, riparian and aquatic habitats protected and moving towards desired conditions? Are we moving class 2 watersheds under the watershed condition framework to class 1?	**IND-WTR-01:** **a.** Number of best management practices (BMP) evaluations conducted, the percent of BMPS that were implemented correctly, and the percent that were effective. **b.** PIBO monitoring: positive trend in PIBO metrics such as bank angle, wood frequency, percent fines, residual pool depth, percent pools, and median substrate size (D50). **c.** Acres (or miles) of restoration activities accomplished by 6th code watershed and acres (or miles) accomplished in 303d/TMDL watersheds **d.** Number of watersheds trended towards an improved condition of class 2. **e.** Results of McNeil core samples of percent fines.
FW-GDL-WTR-04: New stream diversions and associated ditches should have screens placed on them to prevent loss of fish and other aquatic organisms. **FW-GDL-IFS-05:** To maintain free-flowing streams, new, replacement, and reconstructed stream crossing sites (culverts, bridges and other stream crossings) should: **a.** Accommodate at least a 100-year recurrence interval discharge, including associated bedload and debris, and **b.** Prevent diversion of stream flow out of the channels in the event the crossing is plugged or has a flow greater than the crossing was designed. **FW-GDL-IFS-08:** New, replacement, and reconstructed stream crossing sites should be designed to provide and maintain fish passage where native fish, or other desired aquatic organisms, are present except where it is desirable to maintain or create barriers to prevent spread of	**MON-WTR-02:** To what extent is forest management contributing to the conservation of native fish and moving toward habitat objectives for bull trout habitat or critical habitat?	**IND-WTR-02:** **a.** Number of fish passage barriers removed or created. **b.** PIBO monitoring, positive trend in PIBO metrics such as, bank angle, wood frequency, percent fines, residual pool depth, percent pools, and median substrate size (D50).

Selected Plan Component(s)	Monitoring Question(s)	Potential Indicator(s)
undesirable species.		
FW-DC-RHCA-01: RHCAs provide healthy, functioning aquatic, riparian, upland, and wetland ecosystems that support native and desired non-native plant, vertebrate, and invertebrate communities, distributed across the landscape. **FW-DC-RHCA-02:** RHCAs contribute to stream channel integrity, channel processes, and sediment regimes that function characteristically for a given landscape and climatic setting. **FW-DC-RHCA-03:** RHCAs provide for wetland ecosystems. Streams and lakes are free of chemical contaminants and do not contain excess nutrients. Sediment levels are within reference conditions, supporting salmonid spawning and rearing, and cold water biota requirements.	**MON-WTR-03:** Have riparian and wetland areas been maintained or improved to provide for healthy streams and aquatic environments?	**IND-WTR-03:** **a.** Treatment type and acres within RHCAs. **b.** Number of entries and road crossing inside of RHCAs.
Terrestrial Wildlife Species—Threatened and Endangered (Grizzly Bear and Canada Lynx)		
FW-DC-WL-02: Within the NCDE PCA and Zone 1 (including the DCAs), grizzly bear habitat on NFS lands contributes to sustaining a recovered grizzly bear population in the NCDE. **FW-DC-WL-06:** Diverse conditions for the warm moist, cool moist to moderately dry, and cold biophysical settings contribute to habitat quality and connectivity for Canada lynx populations and grizzly bear populations at a landscape scale over the long-term, providing habitat resilience to climate change.	**MON-WL-01:** To what extent is forest management contributing to the conservation of the NCDE grizzly bear and moving toward desired habitat objectives conditions? (also pertains to **MON-VEG-01**)	**IND-WL-01:** **a.** Number of wildlife crossing structures in the North Fork, Middle Fork, or Swan Valley GAs. **b.** Acres open to over-snow vehicle use that is modeled high-quality lynx, grizzly bear denning, or wolverine maternal denning habitat. The following monitoring indicators from the vegetation, fire, aquatics, and RHCA sections also pertain to the grizzly bear: **IND-VEG-01 a, b, and e.** **IND-FIRE-02** **IND-WTR-03a** **IND-IFS-02 d and e**
FW-STD-IFS-02: In each bear management subunit within the NCDE PCA, there shall be no net decrease in the baseline level (see glossary) for secure core and no net increase in baseline levels for OMRD or TMRD on NFS lands during the non-denning season (see glossary), with the listed exceptions:	**MON-WL-02:** Within the NCDE PCA, to what extent does habitat security contribute to sustaining a recovered grizzly bear population in the NCDE?	**IND-WL-02:** Within the NCDE PCA, changes in the level of secure core, OMRD (> 1 mi/mi^2) and TMRD (> 2 mi/mi^2) within each bear management subunit, will be monitored and compared to the baseline. The information is to be reported biennially.
FW-STD-REC-01: Within the NCDE PCA, the number of developed recreation sites that are open	**MON-WL-03:** Within the NCDE PCA, to what extent do the number, capacity, and	**IND-WL-03:** Within the NCDE PCA, the number and overnight capacity of developed recreation sites on

Selected Plan Component(s)	Monitoring Question(s)	Potential Indicator(s)
during the non-denning season shall be limited to one increase to the baseline (see glossary) per decade per bear management unit (BMU) or one increase in overnight capacity per decade per BMU, with the following exceptions: • a change in the number or overnight capacity of developed recreation sites is necessary to comply with Federal laws (e.g., Federal Rehabilitation Act); • a change in the number or overnight capacity of developed recreation sites is necessary to address grizzly bear–human conflicts, resource damage, or human safety concerns; • a change in the number or overnight capacity of developed recreation sites is made that has been evaluated through the USFWS Section 7 consultation process and was shown to be acceptable while grizzly bears were listed as Threatened under the ESA; • the Forest Service adds a developed recreation site or increases the overnight capacity of a developed recreation site, but reduces the overnight capacity by an equal amount at another recreation site(s) in the same BMU, so that there is no net increase in overnight capacity in the BMU; • the Forest Service increases the overnight capacity of a developed recreation site, but consolidates and/or eliminates dispersed camping of equal capacity within the same BMU; • the Forest Service exchanges, buys or sells lands with developed recreation sites.	improvements of developed recreation sites minimize the risk of grizzly bear-human conflicts on National Forest System lands?	NFS lands within each BMU will be monitored. Developed recreation sites (e.g., ski areas, campgrounds, sites with cabins, huts, lodges, visitor centers, and trailheads) will be tracked and compared with the baseline. Administrative site (see glossary) numbers will also be monitored. The information is to be reported biennially.
FW-STD-ECOS GR-05: Within the NCDE PCA, there shall be no increase in the number of active cattle grazing allotments above the baseline (see glossary) on NFS lands. Note: existing allotments may be combined or divided as long as that does not result in grazing allotments in currently un-allotted lands.	**MON-WL-04:** Within the NCDE PCA, to what extent do the number and capacity of, and improvements on cattle grazing allotments minimize the risk of grizzly bear-human conflicts on National Forest System lands.	**IND-WL-04:** Within the NCDE PCA, the numbers of commercial livestock grazing allotments within the PCA will be monitored and compared to the baseline. The information is to be reported biennially.
FW-STD-ECOS E&M-02: Within the NCDE PCA and Zone 1 (including the DCAs), mining activities (as authorized under the Mining Law of 1872) and	**MON-WL-05:** To what extent do leasable or locatable mineral activities avoid, minimize and/or mitigate environmental impacts to grizzly	**IND-WL-05:**.Within the NCDE PCA and Zone 1 (including the DCAs), where it is determined there is potential for substantial effects to the grizzly bear

Selected Plan Component(s)	Monitoring Question(s)	Potential Indicator(s)
oil and gas activities (as authorized under the Federal Onshore Oil and Gas Leasing Reform Act of 1987) occurring on NFS lands shall either avoid, minimize and/or mitigate environmental impacts to grizzly bears or their habitat, subject to existing rights. Stipulations or measures already included in existing leases, permits, or Plans of Operations on NFS lands shall not be changed, nor will additional stipulations or measures be added, without the lease, permit, or Plan of Operation holder's agreement.	bears or their habitat?	population or its habitat resulting from leasable or locatable mineral activities, a monitoring plan will be developed for the life of the mineral activity. The monitoring plan will outline how changes in habitat and/or disturbance to bears will be monitored and mitigations (e.g., monitoring of mining reclamation measures) will be identified and funded.
FW-GDL-TE&V-01: Within the NCDE PCA, logging operations should be restricted in time and space if needed to reduce the potential for substantial grizzly bear disturbance/displacement (e.g., restricting logging activities to the denning season or prohibiting logging activities during the spring in key spring grizzly bear habitat), as determined by site-specific analysis. Note: Other forest management activities such as pre-commercial thinning, burning, weed spraying, and implementation of road best management practices may need to be completed during the spring time period in order to meet objectives (especially if needed to prevent resource damage), but should otherwise be restricted in time or space, if needed to reduce the potential for substantial grizzly bear disturbance/displacement.	**MON-WL-06:** Within the NCDE PCA, to what extent are projects restricted in time and space to reduce the potential for grizzly bear disturbance/displacement?	**IND-WL-06:** Within the NCDE PCA, the 10-year running average for projects (see "project (in grizzly bear habitat in the NCDE)" in the glossary) will be monitored and documented for each project. If the 10 year running average exceeds levels allowed by FW-STD-IFS-03, the rationale will be documented in writing and submitted to the NCDE Coordinating Committee (see glossary).
GA-SM-STD-01: Within the Flathead National Forest portion of NCDE Zone 1 (including the Salish DCA)(see appendix C, figure X), there shall be no net increase in the density of roads open yearlong to public use above the baseline for each geographic unit1 (see table 38 and appendix C, figure X) on National Forest System lands, with exceptions listed in the GA-SM-STD-01.	**MON-WL-07:** To what extent is road management in NCDE Zone 1 consistent with levels known to have been compatible with a stable to increasing grizzly bear population?	**IND-WL-07:** The maximum density of roads open to yearlong public motorized use by geographic unit in the Salish GA. Refer to table 38.
FW-DC-WL-03: Mapped Canada lynx habitat and critical habitat (figure C-2) are managed in a manner	**MON-WL-08:** To what extent is forest management contributing to the conservation of	**IND-WL-08:** **a.** Forestwide acres of mapped Canada lynx

[1] The term "geographic unit" is a unique term used to express the area that was used for calculating unrestricted road density in the Salish GA. The term originates from the 1986 Flathead Forest Plan.

Selected Plan Component(s)	Monitoring Question(s)	Potential Indicator(s)
that contributes to sustaining recovery of the Rocky Mountain Canada lynx population. **FW-DC-WL-06:** Diverse conditions for the warm moist, cool moist to moderately dry, and cold biophysical settings contribute to habitat quality and connectivity for Canada lynx populations and grizzly bear populations at a landscape scale over the long-term, providing habitat resilience to climate change. **FW-STD-TE&V-05:** In mapped lynx habitat, precommercial thinning projects that reduce winter snowshoe hare habitat may only occur if the project meets one of the listed exceptions or WUI exemption. **FW-STD-TE&V-06** In mapped lynx habitat, vegetation management projects that reduce snowshoe hare habitat in multi-story mature or late successional forests may occur only [formerly VEG S6] if the project meets one of the listed exceptions or WUI exemption.	the Canada lynx and moving toward desired habitat conditions for mapped lynx habitat or critical habitat?	habitat treated through vegetation management activities, total. **b.** Forestwide acres of mapped Canada lynx habitat treated through vegetation management activities with WUI exemptions to vegetation standards. **c.** Forestwide acres of mapped Canada lynx habitat treated through vegetation management activities with exceptions to vegetation standards. **d.** Forestwide acres of mapped Canada lynx habitat regenerated by wildfire or by use of prescribed fire outside of harvest units. The following monitoring indicators from the vegetation, fire, aquatics, and RHCA sections will be used to address habitat monitoring questions for Canada lynx: **IND-VEG-01 a, b, and d** **IND-FIRE-02 a** **IND-WTR-03 a** **IND-WL-01**
FW-GDL-REC-04: To maintain or improve high quality winter lynx habitat at a landscape scale, there should be no net increase in miles of designated over-the-snow routes or acres of designated play areas in mapped lynx habitat at a forestwide scale. Locations of designated routes or areas may be shifted across the forest in order to consolidate use, improve enforcement of closed routes or areas, or to open an area of lower quality lynx habitat in exchange for closing an equivalent acreage area of equal or higher quality lynx habitat.	**MON-WL-09:** To what extent is management of over-snow motorized use contributing to the conservation of the Canada lynx and moving toward desired habitat objectives conditions for mapped lynx habitat or critical habitat?	See **IND-WL-01 b**
Wildlife Species of Conservation Concern		
FW-OBJ-SCC-WL-01: Maintain or improve nesting habitat on all lakes suitable for nesting to promote successful reproduction of the common loon (e.g. signs, nesting structures), as needed. **FW-DC-SCC WL-01:** Habitat conditions and ecological processes that support wildlife SCC are maintained or restored to contribute to populations	**MON-SCC-01:** Are habitat conditions for SCC consistent with the objectives and moving towards desired conditions?	**IND-SCC-01:** Common loon: number of lakes with successful reproduction, forest-wide. **IND-SCC-02:** Veery: acres with presence of deciduous tree species, by size class, forest-wide. The following monitoring items from the vegetation, fire, aquatics, and RHCA sections also pertain to wildlife SCC species:

Selected Plan Component(s)	Monitoring Question(s)	Potential Indicator(s)
that persist over the long term, with sufficient distribution to be resilient and adaptable to stressors and likely future environments (see appendix A for a full list of potential SCC)(see table 13 for desired conditions of special habitat features not addressed elsewhere under Aquatic or Terrestrial Ecosystems) (also as pertains to FW-DC-WTR-01;FW-DC-AQS-07; FW-DC-WTR-01,02,10; FW-DC-WET-02-04; FW-DC-RHCA-01,03,05,06; FW-STD-RHCA-01; FW-GDL-RHCA-01, 08-10;) FW-DC-TE&V-02,04,05,09-21, 23;FW-OBJ-TE&V-01-02; FW-STD-TE&V-01;FW-GDL-TE&V-04-13;FW-DC-FIRE-03, 04;FW-OBJ-FIRE-01;FW-STD-FIRE-01; FW-DC-ECOS TIMB-02; Ma2a-DC-01;). **FW-DC-TE&V-16:** Fires of variable size occur periodically across the Flathead NF, creating recently burned forest conditions (fire event within the preceding 10-15 years) in amounts, distributions and patch sizes that function to provide habitat for associated wildlife species, particularly for the black-backed woodpecker (refer to appendix A for a full list of associated wildlife species). Both planned and unplanned ignitions will be used to achieve desired conditions. Desired characteristics of recently burned forest are described in table 7. **FW-DC-TE&V-17:** Non-coniferous vegetation types are present across the Flathead NF in amounts consistent with the NRV, and meet associated characteristics described in table 8. Refer to appendix A for a description of the vegetation types and wildlife species associated with these plant communities.		**IND-VEG-01: a, b, e, f, g, h** **IND-TE&V-03: b** **IND-FIRE-02: a, c** **IND-WTR-03a** **IND-WL-01b** **IND-TIMB-02**
Wildlife Species of Public Interest		
FW-DC-SOPI-WL-01 Key ecosystem characteristics support wildlife SOPI and are resilient and adaptable to stressors and likely future environments. Special habitat features such as caves, boulder fields, persistent snow fields, and waterfalls provide habitat for associated species (see appendix A for a full list of SOPI species and associated habitats). (Also as pertains to FW-DC-TE&V-02,04,05,09-21,	**MON-SOPI-01:** Are habitat conditions for SOPI moving towards desired conditions?	**IND-SOPI-WL-01:** Bald eagle: number of territories with successful reproduction, forest-wide. **MON-SOPI-WL-02:** White-tailed deer: changes in % of successional stages in mapped white-tailed deer winter habitat. The following monitoring items from the vegetation, fire, aquatics, and RHCA sections will be used to address habitat monitoring questions for wildlife

Selected Plan Component(s)	Monitoring Question(s)	Potential Indicator(s)
23;FW-OBJ-TE&V-01-02; FW-STD-TE&V-01;FW-GDL-TE&V-04-13;FW-DC-FIRE-03, 04; FW-OBJ-FIRE-01;FW-STD-FIRE-01; FW-DC-WTR-0; GA-SV-DC-07, 08; GA-SV-GDL-03; GA-NF-DC-14; GA-NF-GDL-01; GA-SF-DC-05;GA-SF-GDL-01; GA-HH-DC-11,12; GA-HH-GDL-01; GA-SM-DC-16; GA-SM-GDL-02; FW-DC-ECOS TIMB-02; MA6b-DC-02; MA6b-DC-03). **FW-DC-TE&V17:** Non-coniferous vegetation types are present across the Flathead NF in amounts consistent with the NRV, and meet associated characteristics described in table 8. Refer to appendix A for a description of the vegetation types and wildlife species associated with these plant communities. **FW-DC-ECOS WL-01:** Habitat management supports SOPI for hunting (e.g., elk, deer, moose, mountain goat, bear, wolf) and trapping (e.g., marten, wolf) at levels meeting Montana Fish Wildlife and Parks species management objectives and provides for Salish-Kootenai Tribal treaty rights. **FW-DC-ECOS WL-02:** Habitat management supports SOPI for viewing (e.g., citizen science activities such as amphibian and raptor surveys as well as individual observations of species such as the pika). **FW-DC-ECOS WL-03** Diverse opportunities exist for hunting, trapping, wildlife viewing, and fishing on Forest lands. Examples include assisted outfitted/guided and unassisted, motorized and non-motorized opportunities. **FW-DC-ECOS WL-04** Levels and types of hunter or trapper access are balanced with desired conditions for wildlife populations and habitat security.		SOPI species: **IND-VEG-01: a, b, e, f, g, h** **IND-TE&V-02** **IND-FIRE-02: a, b, c** **IND-WTR-03a** **IND-WL-01** **IND-WL-02** **IND-WL-07** **IND-TIMB-02** **IND-IFS-02** **IND-IFS-03**
Wildlife—General		
FW-OBJ-SCC-WL-02: Maintain or improve 100-1000 acres of habitat for bats and other cavity nesting/roosting/denning species (see Appendix A) in areas where snags are lacking (e.g. placement of nesting structures, creating snags). **FW-OBJ-AQH-01** Enhance or restore 50 to 100	**MON-WL-01:** Have management objectives for terrestrial and aquatic habitats been met to achieve desired conditions?	**IND-WL-01:** Forestwide acres and miles of terrestrial and aquatic habitat restored or enhanced as reported in the WFRP database.

Selected Plan Component(s)	Monitoring Question(s)	Potential Indicator(s)
miles of habitat to maintain or restore structure, composition, and function of habitat for fisheries and other aquatic species (see Appendix A). **FW-OBJ-RHCA-01**: Enhance or restore 15 to 50 miles of habitat to maintain or restore structure, composition, and function of habitat for wildlife species associated with riparian habitats (see Appendix A).		
Focal Species		
FW-DC-AQS-04: Bull trout – Recovery and delisting of bull trout is the long-term desired condition. Bull trout population trends toward recovery through cooperation and coordination with USFWS, tribes, state agencies, other federal agencies, and interested groups. Recovery is supported through accomplishment of the Bull Trout Conservation Strategy and the Bull Trout Recovery Plan. On NFS lands spawning, rearing, and migratory habitat is widely available and inhabited. Bull trout have access to historic habitat and appropriate life history strategies (e.g., resident, fluvial, and adfluvial) are supported.	**MON-FOCAL-01:** What is the trend of bull trout populations?	**IND-FOCAL-01-** Number of bull trout redds.

Human Uses and Designations of the Forest

The plan monitoring program must contain one or more monitoring questions and associated indicators addressing the status of visitor use, visitor satisfaction, and progress toward meeting recreation objectives.

Table H-2. Human uses and designations of the forest plan monitoring questions and indicators

Selected Plan Component(s)	Monitoring Question	Potential Indicator
Infrastructure (Roads and Trails)		
FW-DC-IFS-11: Road restrictions are maintained to be effective.	**MON-IFS-01:** Are road restrictions effective?	**IND-IFS-01:** Number of road closure devices determined to be ineffective at restricting motorized use.
FW-DC-IFS-04: The transportation system serves land management and public needs and purposes. It is interconnected with federal, state, and local public roads and trails to provide access to lands, infrastructure, and inholdings where appropriate. Although roads maintained for passenger cars meet public road safety standards, roads maintained for high clearance vehicles may have hazards and require operator judgment and skill to negotiate. Road management objectives (RMOs) and trail management objectives (TMOs) are identified and kept current for all roads. Roads and trails are maintained in accordance with RMOs/TMOs. Roads and trails are connected to state, county, local public, and other federal roads and trails. The transportation system provides reasonable access for program management, and to facilities, private in-holdings, and infrastructure (e.g., buildings, recreation facilities, municipal water systems, reservoirs, electronic and communication sites, and utility lines).	**MON-IFS-02:** Have management activities trended towards desired conditions for a transportation system that provides recreation opportunities, safe and efficient public and agency access, and are environmentally compatible?	**IND-IFS-02:** **a.** Miles of road open year-long **b.** Miles of road open seasonally **c.** Miles of roads maintained by maintenance level **d.** Miles of roads decommissioned **e.** Miles of roads put into intermittent storage
FS-DC-IFS-06: The Forests' trail system provides a variety of motorized and non-motorized recreational opportunities during summer and winter that is distributed across the Forest. Trails access destinations, provide for loop opportunities that also connect to a larger trail system, provide linkage from local communities to the Forest, and are compatible with other resources.	**MON-IFS-03:** Does the existing trail system provide for motorized and non-motorized recreation opportunity during both the summer and winter? Are we providing sufficient amount of motorized and non-motorized loop trail experiences on the forest? Is the forests' trail system connecting local communities to the Forest?	**IND-IFS-03:** **a.** Acres open to over-snow vehicle use **b.** Miles of groomed over-snow vehicle trails **c.** Miles of trails maintained for allowed use (e.g., hiker, equestrian, mountain biking, OHV, motorcycle) forestwide. **d.** Number and miles of motorized and non-motorized loop trail. **e.** Miles of trails connecting communities to the Forest.

Selected Plan Component(s)	Monitoring Question	Potential Indicator
Recreation		
FW-DC-REC-03: Recreation facilities including toilets, cabins, trailheads, river portals, airstrips, developed campgrounds and visitor centers are maintained to standard to protect forest resources and provide visitor experiences commensurate with the ROS setting. **FW-DC-REC-04:** Recreation facilities and programs incorporate universal design concepts and meet the current Forest Service accessibility guidelines. **FW-DC-REC-11:** There is a sustainable level of developed and dispersed recreation opportunities where environmental impacts are minimal. Dispersed and developed recreation opportunities are compatible with the desired ROS setting and are managed to minimize user conflicts. Developed recreation sites are clean, safe and provide for user comfort.	**MON-REC-01:** What is the status of visitor use, and visitor satisfaction?	**IND-REC-01:** Using the National Visitor Use Monitoring data, show trends for: • for visitation estimates, • visitor activities; • % overall satisfaction,
FW-OBJ-REC 01: Rehabilitate 5 to 7 dispersed recreation sites on the Forest with erosion or sanitation issues. **FW-OBJ-REC-03:** Improve 7 to 12 campgrounds. **FW-OBJ-REC-04:** Add 2–4 recreational cabin rental(s) on to the National Reservation System. **GA-NF-OBJ-02**: Complete 1 to 3 trails that provide for mountain bike opportunities in the Whitefish Range vicinity. **GA-SV-OBJ-01:** Construct a mountain bike trail in the Crane Mountain area. **GA-SV-OBJ-03:** Construct a second public access to Swan Lake. **GA-SM-OBJ-01:** Reconstruct three campgrounds at Ashley Lake within the next 10 years. **GA-SM-OBJ-02:** Construct a non-motorized trail that connects NFS lands in the Blacktail vicinity to the Foy's to Blacktail Trail System. **GA-SM-OBJ-03:** Construct and designate motorized trail connectors that provide high elevation loop opportunities. **GA-SM-OBJ-04:** Construct a non-motorized trail that connects the Whitefish Trails (WhitefishLegacy.org) to	**MON-REC-02:** What is the progress towards meeting recreation objectives in the plan?	**IND-REC-02:** **a.** Number of dispersed recreation sites on the forest that have been rehabilitated to correct erosion or sanitation issues. **b.** Number of campgrounds that have been improved. **c.** Number of recreation cabin rentals added to the National reservation system since ROD. **d.** Number of bike trails constructed in the Whitefish Range vicinity. **e.** Construction of a bike trails in the Crane Mountain area. **f.** Construction of a second public access on Swan Lake. **g.** Reconstruction of three campgrounds at Ashley Lake. **h.** Construction of a non-motorized trial that connects NFS lands in the Blacktail vicinity to the Foy's to Blacktail Trail system. **i.** Construction and designation of a motorized trail connectors that provide high elevation loop opportunities. **j.** Construction of a non-motorized trail that connects the Whitefish Trails

Selected Plan Component(s)	Monitoring Question	Potential Indicator
NFS lands.		(WhitefishLegacy.org) to NFS lands.
FW-DC-SREC 1 to 7, FW-DC-WREC 1 to 6, **FW-DC-REC-02**: The development scale of recreation facilities is consistent with the desired ROS settings and with recreation corridor, river management, or trail management plans. **FW-DC-REC-03:** Recreation facilities including toilets, cabins, trailheads, river portals, airstrips, developed campgrounds and visitor centers are maintained to standard to protect forest resources and provide visitor experiences commensurate with the ROS setting.	**MON-REC-03:** Are the current recreation settings and opportunities in the plan area meeting or moving towards desired recreation settings and opportunities identified in the plan?	**IND-REC-03:** Describe amount of existing compared to desired ROS setting by season (winter and summer) across the forest.
Scenery		
FW-DC-SCN-02: The Forest's scenery provides a range of scenic quality as described by the scenic integrity objectives. The desired distribution of scenic integrity objectives (SIOs) is displayed in figure C-14 and summarized in table 19.	**MON-SCN-01:** Are the current conditions in the plan area meeting or moving towards desired SIOs identified in the plan?	**IND-SCN-01:** Describe the amount of existing SIOs compared to desired SIOs.
Designated Wild and Scenic River		
Ma2a-DC-01: The free-flowing condition, water quality, and outstandingly remarkable values that made river segments eligible for designation, or for which they were designated, are protected and perpetuated.	**MON-WSR-01:** Are the free-flowing conditions, water quality and outstandingly remarkable values for which the Flathead River WSR was designated for maintained and protected?	**IND-WSR-01:** **a.** Number of monitoring items per the Limits of acceptable change (LAC) direction in the WSR Recreation Direction that are in compliance. **b.** Number of monitoring items per the LAC direction in the WSR Recreation Direction that are not in compliance.
Designated Wilderness Area		
FW-MA1a-DC-01: Wilderness areas provide the qualities of wilderness character as defined by the Wilderness Act and the wilderness areas' enabling legislation. The five wilderness characters are: untrammeled, undeveloped, natural, outstanding opportunities for solitude or a primitive and unconfined type of recreation and other natural features such as geology, ecology, cultural, educational, scenic, historic and research.	**MON-WILD-01:** Do management activities in designated wilderness areas protect and maintain wilderness characteristics?	**IND-WILD-01:** **a.** Wilderness character monitoring and the national wilderness stewardship monitoring results. **b.** LAC monitoring results for the Bob Marshall Wilderness Complex. **c.** Authorized motorized and mechanized entry as reported through INFRA
FW-MA1a-DC-03: Natural ecological processes and disturbance (e.g., wildfire, insects, and disease) are the primary forces affecting the composition, structure, and pattern of vegetation. Wilderness areas provide	**MON-WILD-02:** Are natural process and disturbance the primary forces affecting the composition, structure, and pattern of	**IND-WILD-02:** Number, kind, and extent of vegetation treatments (including prescribed fire) that has occurred in wilderness area**.**

Selected Plan Component(s)	Monitoring Question	Potential Indicator
opportunities for visitors to experience natural ecological processes and disturbances with limited amount of human influence.	vegetation?	
Recommended Wilderness Area		
MA-1b-DC-01: Recommended wilderness areas preserve opportunities for inclusion in the National Wilderness Preservation System. Maintain the ecological and social characteristics that provide the basis for each area's suitability for wilderness recommendation. **MA-1b-DC-02:** Recommended wilderness areas are characterized by a natural environment where ecological processes such as natural succession, fire, insects, and disease function with limited amount of human influence. Impacts from visitation do not detract from the natural setting.	**MON-RWILD-01:** Do management activities in recommended wilderness maintain and protect the ecological and social characteristics that provide the basis for wilderness recommendation? Are natural processes allowed to function with limited human influence? Are impacts from visitation detracting from the natural setting?	**IND-RWILD-01:** **a.** Number, kind, and extent of vegetation treatment (including prescribed fire) that has occurred in recommended wilderness area**.** Additional indicators TBD. (Also see IND-TE&V-04)
Cultural and Historic Resources		
FW-OBJ-C&HR-01: Annually complete an inventory of 50 to 100 acres containing, or predicted to contain, highly valuable, threatened, or vulnerable cultural resources (non-project acres). **FW-OBJ-C&HR-02:** Evaluate and nominate four to eight significant cultural resources to the NRHP or develop five historic contexts, overviews, thematic studies, or cultural resources property preservation plans to help guide management and use of National Register eligible or listed properties, districts, traditional cultural properties, and cultural landscapes. **FW-OBJ-C&HR-03:** Annually complete one public outreach or interpretive project that enhances public understanding and awareness of cultural resources and/or history of the plan area.	**MON-C&HR-01:** To what extent cultural and historic resource objectives being met with trending towards desired conditions to identify, evaluate, and nominate cultural resources for listing on the National Register of Historic Places?	**IND-C&HR-01:** **a.** Number of submitted cultural resource nominations to the State Historic Preservation Officer or number of the completed historic contexts, overviews, thematic studies, or cultural resources property preservation plans for significant cultural resources identified through the inventory that are not National Register-eligible. **b.** Number of completed public outreaches or interpretive projects.
FW-DC-C&HR-02: Traditional cultural properties, cultural landscapes, sacred sites, and other culturally significant areas identified by tribes and local communities provide tangible links to historically rooted beliefs, customs, and practices. These resources are protected through consultation with American Indian tribes, traditional cultural practitioners, consulting parties, and project design.	**MON-C&HR-02:** To what extent is the Forest meeting Forest Plan desired conditions to assuring treaty rights are preserved and trending toward desired conditions for consultation with each Tribe?	**IND-C&HR-02:** **a.** Completion of a cooperatively established tribal consultation protocol. **b.** Number of completed consultations under the consultation protocol.

Selected Plan Component(s)	Monitoring Question	Potential Indicator
FW-OBJ-TRIB-01: Management of traditional cultural areas, through the development of two to five management plans, in consultation with the tribes. **FW-OBJ-TRIB-02:** Ongoing government-to-government and staff consultation for each federally recognized Tribe with historical or treaty interests in Flathead NFS lands, through a cooperatively established tribal consultation protocol.		

Productivity of the Land

Productivity is defined as the capacity of National Forest System lands and their ecosystems to provide various renewable resources in certain amounts in perpetuity (36 CFR 219.19). In this context, productivity is an ecological term, not an economic term.

Table H-3. Productivity of the land: plan monitoring questions and indicators

Selected Plan Component(s)	Monitoring Question	Potential Indicator
FW-DC-SOIL-01: The five soil ecological functions (soil biology, soil hydrology, nutrient cycling, stability and support; and filtering and buffering) are sustained so that long-term soil productivity is not impaired. **FW-GDL-SOIL-02**: Restore soil function on temporary roads utilized for removal of commercial forest products (e.g., timber harvest, biomass removal) when commercial activities are complete. Appropriate restoration activities will be determined through onsite assessment and may include activities such as re-contouring the entire road template to natural ground contour, scarification, utilizing native materials as soil inoculum, and placement of woody debris. FW-STD-ECOS TIMB-01: Timber shall not be harvested on lands where soil, slope or other watershed conditions may be irreversibly damaged, as identified in project specific findings.	**MON-SOIL-01:** To what extent have vegetation management activities prevented irreversible damage to soil conditions?	**IND-SOIL-01-01:** Number of harvest units surveyed and percent that meet the soil quality standard, post-harvest.
FW-STD-ECOS TIMB-02: Timber harvest activities shall only be used when there is reasonable assurance of restocking within 5 years after final regeneration harvest.	**MON-TBR- 03:** To what extent are regeneration units restocked to trend towards vegetation desired conditions?	**MON-TBR- 03-01:** On lands suitable for timber production, percent of acres with regeneration harvest that are adequately restocked within 5 years of harvest.

Economic, Cultural, and Social Environment

The purpose for monitoring social, cultural, and economic indicators (FSH 1909.12) is to:

- Inform managers and the public of changes in social, cultural, and economic conditions that are influenced by the plan.
- Monitor contributions of the management of the plan area toward meeting social, cultural, and economic attributes of desired conditions.
- Provide feedback for adaptive management toward expected and potential contributions to social and economic sustainability.

Table H-4. Economic, cultural, and social environment plan monitoring questions and indicators

Selected Plan Component(s)	Monitoring Question(s)	Potential Indicator(s)
Ecosystem Services—Forest Products		
FW-DC-ECOS TIMB-01: Production of timber contributes to ecological sustainability, and associated desired conditions and contributes jobs and income to the local economy. A sustainable mix of timber products (including both sawtimber and non-sawtimber) is offered under a variety of harvest and contract methods in response to market demand. **FW-DC-ECOS TIMB-03**: Lands identified as suitable for timber production have a regularly scheduled timber harvest program that provides jobs and income while achieving ecosystem health and sustainability. **FW-OBJ-ECOS TIMB-01**: Annually, offer timber for sale average PTSQ of 28.3 MMBF. **FW-OBJ-ECOS TIMB-02**: Annually, offer commercial timber and other products for sale at an average annual PWSQ of 6.2 to 7.0 MMCF (30.3 to 34.3 MMBF).	**MON-ECOS TIMB-01:** To what extent is the Forest meeting Forest Plan objectives and trending towards desired conditions to provide a mix of timber products in response to market demands?	**IND-ECOS TIMB -01:** Million board feet (MMBF)/ million cubic feet (MMCF) offered and sold annually
FW-DC-ECOS TIMB-02: In areas suitable for timber production, dead or dying trees (due to fire, insects, disease) are salvaged to recover as much of the economic value of the wood as possible while achieving desired conditions for burned wildlife habitat, snags, and downed woody retention(refer to FW-DC-TE & V-16, and 19 through 21).	**MON-ECOS TIMB-02:** To what extent is the Forest meeting Forest Plan desired conditions to recover the economic value of dead/dying trees on suitable lands?	**IND-ECOS TIMB-02:** Million board feet (MMBF)/ million cubic feet (MMCF) of salvage sales offered and sold annually
Social and Economic		

Selected Plan Component(s)	Monitoring Question(s)	Potential Indicator(s)
FW-DC-S&E-02: Sustainable and predictable levels of goods and services (such as wilderness hunting and fishing opportunities, timber, downhill skiing, and huckleberries) are provided for local communities that contribute to the local economy through the generation of jobs and income while creating products for use, both nationally and locally.	**MON-S&E-01:** To what extent is forest management providing sustainable and predictable levels of goods and services for local communities? **MON-S&E-02:** To what extent is forest management contributing towards desired conditions for a stable and functioning local economy?	**IND-S&E-01:** Levels of production of multiple uses including timber products, grazing and recreational visits, wilderness hunting and fishing opportunities, and downhill skiing. **IND-S&E-02:** Number of jobs and thousands of dollars in labor income from FNF management.
FW-DC-S&E-03: Ample opportunities, including employment, to connect people, including youth, with nature exist across the Forest. **FW-DC-ECOS R&E-01:** Interpretation and education opportunities enrich the visitor's experience and understanding for the natural and cultural history of the Forest. **FW-DC-ECOS R&E-02:** Conservation Education (CE) Interpretive and Visitor Information programs provide opportunities for visitors, youth, and communities to appreciate and understand the Forest's natural and cultural resources and learn how to conserve those resources for future generations. **FW-DC-ECOS R&E-03:** Education, interpretive and information programs and activities connect people to the forest environment and foster a sense of place and stewardship. **FW-DC-ECOS R&E-04:** Focused education activities engage youth in hands-on outdoor experiences and support educators in teaching science and natural resource topics.	**MON-S&E-03:** To what extent do opportunities to connect people, including youth, with nature exist across the Forest.	**IND-S&E-03:** Number and type of education and youth programs **IND-S&E-04:** Number of youth participating in various forest education and youth programs, including employment.
Rule requirement (219.12(k)(3))	**MON-S&C-03**: Is the cost of implementing the Forest Plan consistent with that predicted in the FEIS?	**IND-SOC-02-01:** Forest annual budget, supplemented with partnerships and other outside funding.